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Formulation of Annual Rail Transport Plans in China

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RESTRICTEDFORMULATION OF ANNUAL RAIL TRANSPORT PLANS IN CHINA

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The following is a summary of the article.

I. Place of Rail Transport in Transportation Planning as a Whole.

Since we are learning from the Soviet Union about a planned economy embracing all phases of national life, transportation must be planned in order to serve efficiently. Rail transport constitutes the main portion of transportation in general, hence rail transport must be carefully planned, preferably on an annual basis.

There are 8 main elements of the problem that require consideration.

1. Traffic;- the amount of goods or persons to be moved.
2. Transportation;- the method and cost of moving same.
3. Major repairs.
4. Basic Construction.
5. Mechanical Engineering.
6. Labor.
7. Materials and Supplies.
8. Finances.

Transportation operations are basic; the other elements contribute toward effectuating the actual transportation.

II. Content of Transportation Plans.

The traffic which must be moved is of two main categories,- freight and passenger.

A. With respect to freight traffic, consideration must be given to 11 items,-

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1. Amount in tons; originating on local line, and on foreign lines.
2. Ownership of lines; state owned, or privately owned.
3. Character of principal kinds of goods.
4. Seasonal variations.
5. Terminal facilities.
6. Ton-kilometrage.
7. Average haul.
8. Tonnage flowing through each main section of country, or lines.

9. Ratio of busiest month's average daily transport to average daily transport throughout the year.
10. Tonnage arriving at and leaving each big station.
11. Tonnage arriving at and leaving each boundary station, to indicate volume of interzonal traffic.

B. With respect to passenger traffic, consideration must be given to 7 items:-

1. Number of passengers;- short trip, long trip, interzonal travel.
2. Number of passenger-kilometers.
3. Average journey; calculated from preceding figures.
4. Baggage checked, other than hand carried luggage.
5. Express packages and parcels.
6. Mail matter.
7. Number of passengers boarding and alighting at principal stations.

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For freight transport, there are five other items to be noted:

1. Average day's work, considering all factors.
2. Flow of freight cars, on local line, and to and from foreign lines.
3. Flow of loaded freight cars in each section, or zone.
4. Number of train trips required, taking into account return of empties.
5. Number of freight cars required to handle the traffic.

For passenger traffic, there are two other items to be noted:

1. Number of passenger train trips required by traffic.
2. Number of passenger cars required by traffic.

C. Locomotive Haulage.

1. Regular service kilometrage.
2. Extra kilometrage, such as by an extra locomotive making up double-header; replacing a defective locomotive, etc.
3. Total ton-kilometrage.
4. Number of locomotives required to handle the traffic.

D. Technical considerations; 12 items.

1. Average number of axles in each train.
2. Average weight of each train.
3. Average trip of each loaded car.
4. Ratio of travelling empties to travelling loaded cars.
5. Total distance travelled counting both empties and loaded cars.
6. Average operational speed, counting actual movement, not waits at stations.

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7. Average travel speed, including stops of passenger and freight trains, but not time for make-up of freight trains.

8. Operational stops, for loading and unloading freight trains.

9. Average make-up and switching time for freight trains.

10. Average length of trips between terminals.

11. Average turn-around time for freight cars.

12. Average daily kilometrage for freight cars.

E. Cost of transportation; 11 factors.

1. Combined ton-kilometrage, in which 1 passenger-kilometer is considered equivalent to 1 ton-kilometer, since cost is about the same.

2. Wages, and related expenses.

3. Fuel and lubrication.

4. Materials and supplies.

5. Other expense items.

6. Depreciation.

7. Taxes.

8. Expenses other than operating, such as damage, accident liabilities, interest on loans, etc.

9. Total outlay.

10. Cost per combined ton-kilometer.

11. Average number of combined ton-kilometers per railway

worker.

III. Basic data for planning rail transportation.

Transport plans are intended to meet traffic needs, to accomplish traffic plans. Traffic plans originate from the outside, based on

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business and other requirements, military, pleasure, disaster relief and reconstruction, etc.

A. Freight traffic. This arises mainly from 3 sources:

1. Government orders, in line with planned economy which calls for moving of all goods except such as are locally consumed or stored. This is the major source.

2. Private enterprises and merchants' needs. These must be studied and brought into line with the total planned economy.

3. Materials for the railways' own use, the transport of which must also be planned.

B. Passenger traffic, and accessory, such as mail, and express service.

This is highly variable, following multitudinous personal choices, and planning can only be done on the basis of past figures.

C. Principles for guiding initial planning.

1. Former plans should not be rashly contracted or expanded.

The afore-mentioned basic data should be carefully analyzed and evaluated before plans are made, for contraction may put an undesirable limit upon the government and people, while over-expansion may result in waste.

2. Avoid needless transport, such as carrying "coals to Newcastle".

3. Desist from too short haulage as well as unsuitable long hauls.

4. Coordinate with other means of transportation.

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IV. Composition of Transport Plans: two elements must be coordinated.

1. The planning which emanates from consideration of traffic needs. This must be made from an overall point of view, well coordinated without prejudice, a resultant of many sectional plannings, all in close touch with reality.

2. The planning which emanates from consideration of how the movement of goods and passengers is to be accomplished under actual operating conditions and in the light of experience.

V. Demands on the Operating Division.

Equipment and facilities must be planned to fit transportation needs, and this may make new demands such as the following:

1. Motive power and rolling stock.

Add rolling stock, increase inspection and repair facilities, improved means for taking on fuel and water; enlargement of tractive power of locomotives, improvement of furnishings of passenger cars, provision of refrigerator cars.

2. Line facilities.

Amplify or improve meeting and passing facilities, double tracking, elimination of slow speed sections, decrease of grades, addition and lengthening of sidings, strengthening of bridges, ballasting of roadbed, reduction of curves, improvement of station facilities.

3. Electrical facilities.

Extension and improvement of signaling equipment, improvement of train dispatching operations, improvement of communication of operational messages.

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Such demands should not be too vigorously pressed without due consideration of other present or future factors in the problem.

VI. Limiting considerations on transportation plans.

So many different factors enter into the solution of the problem that the most careful consideration and coordination is necessary to get good overall functioning. Subsidiary elements often bring in limitations to an overall plan; concurrent circumstances, such as political and military developments, may present counter-demands that cannot be ignored.

VII. How to reconcile contraries.

The railway planners themselves usually provide the solution. When departments differ in opinion, the overall planning group will have to settle the differences, supplement deficiencies, make substitutions such as cement for steel or apprentices for regular workers. If equipment is superabundant, the traffic division should try to get more business in order to put it to full use. When the railway planners are not able to resolve the problem, the government may have to be brought in to make decisions, or to supplement shortages of money, materials or men, through its superior resources.

VIII. Adoption of rail transportation plans.

Previous to government approval, it is not a plan, but a proposal of a plan. The railway planners formulate their proposals which the government considers in the light of the entire national

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economy, finds solutions for difficult problems, and gives approval with or without reservations or modifications. After the Ministry of Railways have received said government approval, the railway planning and transportation departments must draw up detailed plans for each railway line which will be transmitted to each railway administration, railway bureau, sub-bureau and station. Thus everyone down to the humblest worker operates under a definite plan.

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